

We claim:

- 1 1. An immunostimulatory composition comprising:
2 at least one oligonucleotide comprising both an RNA region and a
3 DNA region, wherein at least one terminus of the oligonucleotide
4 comprises RNA.
- 1 2. The composition of claim 1, wherein the DNA region comprises at
2 least one unmethylated CpG dinucleotide.
- 1 3. The composition of claim 2, wherein the DNA region comprises at
2 least one CpG sequence.
- 1 4. The composition of claim 2, wherein both termini comprise at least 1
2 RNA nucleotide.
- 1 5. The composition of claim 3, wherein at least one terminus comprises
2 poly A RNA.
- 1 6. The composition of claim 1, wherein a linkage between at least two
2 nucleotides of the oligonucleotide comprises a modification of the
3 phosphate backbone.
- 1 7. The composition of claim 6, wherein the modification is a
2 phosphorathioate modification.
- 1 8. An immunostimulatory composition comprising at least a first
2 oligonucleotide and a second oligonucleotide, wherein both the first
3 and second oligonucleotides each contain at least one RNA region
4 and at least one DNA region, wherein at least one terminus of each
5 oligonucleotide comprises RNA.

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- 1 9. The immunostimulatory composition of claim 8, wherein each
2 oligonucleotide elicits a different immune stimulation profile
- 1 10. An adjuvant comprising at least one oligonucleotide comprising both
2 an RNA region and a DNA region, wherein at least one terminus of
3 the oligonucleotide comprises RNA.
- 1 11. A vaccine comprising:
2 at least one oligonucleotide comprising both an RNA region and a
3 DNA region, wherein at least one terminus of the oligonucleotide
4 comprises RNA, and wherein said oligonucleotide is associated with
5 a physiological carrier or delivery system.
- 1 12. A method of stimulating innate immunity comprising:
2 administering at least one oligonucleotide comprising both an RNA
3 region and a DNA region, wherein at least one terminus of the
4 oligonucleotide comprises RNA, and wherein said oligonucleotide is
5 associated with a physiological carrier or delivery system.
- 1 13. A method of stimulating global immunity comprising:
2 administering at least one oligonucleotide comprising both an RNA
3 region and a DNA region, wherein at least one terminus of the
4 oligonucleotide comprises RNA, and wherein said oligonucleotide is
5 associated with a physiological carrier or delivery system.
- 1 14. A vaccine comprising:
2 1) at least one oligonucleotide comprising both an RNA region and
3 a DNA region, wherein at least one terminus of the oligonucleotide
4 comprises RNA and,
5 2) at least one target antigen.

- 1 15. A method of stimulating a cellular immune response comprising:
2 administrating
3 1) at least one oligonucleotide comprising both an RNA region and
4 a DNA region, wherein at least one terminus of the oligonucleotide
5 comprises RNA and,
6 2) at least one target antigen.
- 1 16. A method of stimulating a humoral immune response comprising:
2 administrating
3 1) at least one oligonucleotide comprising both an RNA region and
4 a DNA region, wherein at least one terminus of the oligonucleotide
5 comprises RNA and,
6 2) at least one target antigen.
- 1 17. A method of making a vaccine comprising:
2 associating
3 1) at least one oligonucleotide comprising both an RNA region and
4 a DNA region, wherein at least one terminus of the oligonucleotide
5 comprises RNA, and
6 2) a physiological carrier or delivery system.